



***EXPLORING COMMUNITY PHARMACISTS' COMMUNICATION ON THE
USE OF EMERGENCY CONTRACEPTIVE PILLS TO CUSTOMERS***

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USE OF EMERGENCY CONTRACEPTIVE PILLS TO CUSTOMERS**

By

LEIU CHANG YOU

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
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Master of Science**

June 2020

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

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By

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June 2020

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Premarital sex is increasingly common among the youth in Asian countries. This entailed the emergence of increase use of emergency contraceptive pills (ECP) among young female adults. In Malaysia, premarital unplanned pregnancy is evident with low awareness and knowledge of contraception. However, pharmacists constantly ensure ECP users received education on top of the medication. This study focused into the education and communication process of ECP information transition from pharmacists to consumers by understanding the current practices implemented and considering the challenges and cultural aspects in Malaysia context. Eventually, exploration of a communication material which can improve the education and communication process of ECP awareness and use to reduce risk of unwanted pregnancy.

This thesis explored community pharmacists' perspectives on a communication material for pharmacists during ECP counselling to young female adults in Malaysia. Eleven (11) interviews were conducted with purposive sampling until data saturation was achieved. All audio-recorded interview sessions were transcribed verbatim and analysed thematically using the NVivo 10 software (QSR, Melbourne).

Themes emerged from the current pharmacist's practice in communicating ECP use to young female adults were: (1) pharmacist's approach to initiate in-depth counselling with young female adults, (2) gathering of information from young female adults, and (3) content of in-depth counselling given to young female adults. Themes which emerged from the challenges encountered by pharmacists when communicating ECP to young female adults and how they

manage these challenges were: (1) perceived attitude among young female adults in seeking ECP, (2) environmental setting in community pharmacy, and (3) ECP supporting communication tools for pharmacists. Lastly, themes generated from types of effective communication channels and why are the suggested communication channels are potential to deliver ECP information to young female adults as perceived by pharmacists were: (1) varying communication channels, (2) layout of printed communication materials, and (3) content in a communication material.

Findings from this study revealed that participants generally valued the use of communication material in guiding face-to-face communication of ECP counselling session. Together with face-to-face communication, printed ECP leaflet is particularly useful to overcome challenges faced by pharmacists in Malaysia. With these communication channels, quality patient education could be accomplished followed by improved contraception outcomes. The findings of this study will contribute as a foundation in commercialising the communication material by putting it into practice.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**MENEROKA KOMUNIKASI AHLI FARMASI KOMUNITI MENGENAI
PENGUNAAN PIL KONTRASEPTIF KECEMASAN KEPADA PENGGUNA**

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Seks pra-nikah semakin kerap berlaku di kalangan belia di negara-negara Asia. Isu sedemikian menyebabkan peningkatan penggunaan pil pencegah kehamilan kecemasan di kalangan wanita dewasa muda. Di Malaysia, kehamilan yang tidak dirancang sebelum perkahwinan terbukti dengan kesedaran dan pengetahuan mengenai pencegah kehamilan yang rendah. Walau bagaimanapun, ahli farmasi sentiasa memastikan pengguna pil pencegah kehamilan kecemasan mendapat pengetahuan tentang pil tersebut. Kajian ini meneliti kepada proses pendidikan dan komunikasi maklumat pil pencegah kehamilan kecemasan dari ahli farmasi kepada pengguna dengan mempertimbangkan cabaran dan aspek budaya dalam konteks Malaysia. Penemuan sedemikian membolehkan pencadangan bahan komunikasi yang sesuai untuk memastikan peningkatan proses pendidikan dan komunikasi dalam kesedaran pencegah kehamilan dan penggunaan pil pencegah kehamilan kecemasan untuk mengelakkan kehamilan yang tidak dirancang.

Tesis ini menerokai perspektif ahli farmasi komuniti tentang bahan komunikasi yang sesuai digunakan semasa kaunseling pil pencegah kehamilan kecemasan kepada wanita dewasa muda di Malaysia. Sebelas (11) temu ramah dilakukan dengan persampelan bertujuan sehingga ketepuan data tercapai. Semua sesi temu ramah yang dirakam audio ditranskripsikan secara verbatim dan dianalisis secara tematik menggunakan perisian NVivo 10 (QSR, Melbourne).

Tema yang timbul dari amalan semasa ahli farmasi dalam menyampaikan penggunaan pil pencegah kehamilan kecemasan kepada dewasa wanita muda adalah: (1) pendekatan ahli farmasi untuk memulakan kaunseling mendalam

dengan wanita dewasa muda, (2) pengumpulan maklumat dari wanita dewasa muda, dan (3) kandungan terperinci kaunseling yang diberikan kepada wanita dewasa muda. Manakala tema yang muncul daripada cabaran yang dihadapi dan cara menangani cabaran tersebut oleh ahli farmasi ketika berkomunikasi pil pencegah kehamilan kecemasan kepada wanita dewasa muda adalah: (1) persepsi terhadap sikap di antara wanita dewasa muda dalam proses memperolehi pil pencegah kehamilan kecemasan, (2) keadaan persekitaran di dalam farmasi komuniti, dan (3) alat komunikasi tentang pil pencegah kehamilan kecemasan untuk kegunaan ahli farmasi. Akhirnya, tema yang dihasilkan daripada temu ramah ahli farmasi tentang saluran komunikasi yang berkesan dan kenapa iany sesuai untuk wanita dewasa muda untuk memperolehi maklumat pil pencegah kehamilan kecemasan adalah: (1) saluran komunikasi yang berlainan, (2) susun atur maklumat dalam bahan komunikasi bercetak, dan (3) kandungan dalam bahan komunikasi.

Keputusan dari kajian ini menunjukkan bahawa para peserta secara amnya menilai penggunaan bahan komunikasi dalam membimbing komunikasi semasa sesi kaunseling pil pencegah kehamilan kecemasan. Risalah komunikasi amat berguna untuk mengatasi cabaran-cabaran yang dihadapi oleh ahli farmasi di Malaysia. Dengan saluran komunikasi yang berkesan, pendidikan maklumat ubat terhadap pesakit yang berkualiti dapat dicapai; justeru diikuti dengan hasil pencegah kehamilan yang berkesan. Hasil kajian ini akan menjadi asas dalam mengkomersialkan bahan komunikasi dengan pelaksanaan kegunaan bahan komunikasi tersebut dalam amalan farmasi.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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LIST OF ABBREVIATIONS

CPHA	Canadian Public Health Association
EC	Emergency contraception
ECP	Emergency contraceptive pills
EPPM	Extended Parallel Process Model
FDA	Food and Drug Administration
HC3	Health communication capacity collaborative
HIV	Human immunodeficiency viruses
IUD	Intrauterine device
KAP	Knowledge, attitudes and practices
MRT	Media Richness Theory
OCP	Oral contraceptive pills
PSA	Pharmaceutical Society of Australia
SCT	Social Cognitive Theory
STD	Sexually transmitted diseases
TIMS	Theory-informed Media Selection
UGT	Uses and Gratifications Theory
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

This chapter is an introductory to concepts that form the backbone of this study. The idea of this study sparked with the concern of proper use of emergency contraception pills among young female adults in the prevention of unwanted pregnancy. With the convenient access of emergency contraceptive pills from community pharmacy, this study explored a communication material in aiding community pharmacist's counselling process on the use emergency contraceptive pills among young female adults.

1.1 Introduction to contraception

Globally, many pregnancies are unplanned. An unplanned pregnancy is a pregnancy that is reported to have been either unwanted (that is, the pregnancy occurred when no children, or no more children, were desired) or mistimed (that is, the pregnancy occurred earlier than desired) (Centers for Disease Control and Prevention, 2019). The worldwide rate of unintended pregnancy in year 2012 was 53 per 1,000 women aged 15–44. While official data on unplanned pregnancies in Malaysia is scarce, a nationwide cross-sectional study in government primary healthcare clinics showed 42.9% of the pregnancies were unplanned (Yusof, Samad, Omar, & Ahmad, 2018). This finding is alarming since family planning services are offered free of charge by government health facilities in Malaysia, yet, contraception usage rates are still low.

Contraception refers to a product or medical procedure used to prevent unwanted pregnancy, either through modern or traditional contraceptive methods. There is more emphasis given to the promotion of modern contraceptive methods, including implant or intra uterine device (IUD), hormonal pills or injections, condoms, emergency contraception, and vasectomy or tubal ligation, because of their greater effectiveness in preventing unintended pregnancies (World Health Organization, 2020a). Emergency contraception (EC) impedes more than 95% of unwanted pregnancies when taken within 5 days after an unprotected intercourse or contraceptive failure (World Health Organization, 2018). The two main components of EC are IUD and emergency contraceptive pills (ECP), with the latter being more popular and widely-used (McKay & Gilbert, 2014; Michie, Cameron, Glasier, Wellings, & Loudon, 2014). Despite its ease of availability, a report had shown contraceptive prevalence rate in Malaysia for modern methods is 32%. This is much lower compared to global, 63% and lesser than neighbouring countries, Singapore 55.1% and Thailand 77.5% (Najimudeen & Sachchithanatham, 2014).

According to a 2015 report, 57.1% of Malaysian women (who are married/in unions and of reproductive age) use some form of contraception. The most common methods are the pill (17%), female sterilization (10.1%), rhythm method (8.1%), IUDs (5.4%), various traditional methods (3.7%) and withdrawal (3.6%) (United Nations, Department of Economic and Social Affairs, Population Division, 2015). Although with higher usage, the use of pill in the prevention of conception does not sound as simple as popping-in the pills. The complexity of pregnancy prevention is challenging when contraception should be individualised according to each woman's condition and preference. Multiple concurrent factors such as regularity of menstrual cycle and ovulation time make successful contraception a huge challenge (McKay & Gilbert, 2014). Many women in Malaysia, especially in less developed or urban parts of the countries, may not have adequate education, support, or education to receive birth control. In the same report, 15.4% of Malaysian women (who are married/in unions and of reproductive age) have unmet family planning needs due to lacking in understanding (United Nations, Department of Economic and Social Affairs, Population Division, 2015).

Many factors are associated with poor uptake of contraception methods, including non-use, incorrect and inconsistent use, failure rates, barriers to access, poverty, and lack of education (Todd & Black, 2020; Woodhams & Gilliam, 2019; Wulifan, Brenner, Jahn, & De Allegri, 2016). Other contributing factors are socioeconomic, cultural, regulatory and religious conditions. Among these factors, one can impact proper utilisation is inaccurate information or lack of awareness of EC (Sonfield, Hasstedt, & Gold, 2014; Wulifan et al., 2016).

1.1.1 The importance of emergency contraception

It is reported that premarital sexual behaviour is not only increasingly accepted by young people in Asian countries but is also becoming more common in that a considerable proportion are engaging in premarital sex (Mutha, Mutha, Baghel, Patil, Bhagat, Patel, & Watsa, 2014). Unintended pregnancy during early teenage ages and the associated negative consequences of early pregnancy and early childbearing remain public health concerns. It can end up in abortion, miscarriages or live births. These outcomes can be associated with maternal injuries and death, impacting on women's numerous social, economic, and cultural aspects of life. A United States study estimated that 51,000 abortions were prevented by emergency contraception use in 2000 alone (Jones, Darroch, & Henshaw, 2002).

1.1.2 Emergency contraceptive pills

The most common method for emergency contraception is by ECP, besides use of copper-bearing intrauterine devices. World Health Organisation (WHO) states that ECP taken within five days after unprotected coitus reduces a woman's chance of pregnancy up to over 95% (World Health Organization,

2018). The efficacy of ECP is directly linked to the time interval between unprotected intercourse and ECP administration. In year 2006, the U.S. Food and Drug Administration (FDA) approved for emergency contraception to be made available over-the-counter sales for individuals aged 18 or older (U.S. Food and Drug Administration, 2006). This resulted in advance supply of need enables ECP to be used as soon as possible after unprotected sex i.e. when it is most effective. Women who were supplied ECP in advance were shown to be 2 to 7 times more likely in using it, as reported by a review (Rafie, Stone, Wilkinson, Borgelt, El-Ibiary, & Ragland, 2017). In addition, an advance supply of the time-sensitive ECP would overall enhance the optimal therapeutic benefit. Following the implementation, a study showed a dramatic increase in year 2011 on the use of emergency contraceptives among women aged 15 to 19 years from 8.1% in 2002 to 22.9% (Abma & Martinez, 2017). Similar legislation is enforced in Malaysia where ECP can be dispensed by community pharmacists without the need of a prescription. The supply is allowed following a consultation or screening process which are usually straight-forward (OCs OTC Working Group, 2018; International Consortium for Emergency Contraception, 2018). While ECP have been proven safe and efficacious, there are various misperceptions about its use such as the perceived functions as abortion pill, regular birth control and prevention of sexually transmitted diseases, as well as false impression on instruction and side effect of infertility (Yen, Parmar, Lin, & Ammerman, 2015). So far, increased access to emergency contraceptive pills have boosted its use, though reduction in cases of unintended pregnancy have not been astounding (Michie & Cameron, 2020).

1.2 Roles of pharmacist in emergency contraceptive pills

The non-prescription supply of ECP has reduced delays in obtaining emergency contraception. Faster access to ECP can result in initiation of therapy sooner after unprotected intercourse which results in higher efficacy rates, thus increases the potential to reduce unintended pregnancy rates (Shen, Che, Showell, Chen, & Cheng, 2017). However, a study showed that the number of self-reported unintended pregnancies is still high despite the availability of non-prescription ECP (Michie & Cameron, 2020). Another study showed that unintended birth was more likely among women who were young, unmarried, lower income, and uninsured (Theme-Filha, Baldisserotto, Fraga, Ayers, da Gama, & do Carmo Leal, 2016). More importantly, lack of awareness and knowledge of ECP remains a major barrier to appropriate ECP use in this patient population. Only a small fraction of women who were given advance provision of ECP used it correctly (Beyene, 2019). Thus, community pharmacists are uniquely positioned to play pivotal role in encouraging communication with consumers to clarify potential misconceptions about using EC (Gonsalves & Hindin, 2017; Ragland, Payakachat, & Stafford, 2015). During counselling sessions, pharmacists can address consumers' enquiries as well as explain on availability, use, and administration of emergency contraceptive products (Rafie et al., 2017). For years, pharmacists remain key players in EC by providing access to needed products and by serving as professional and knowledgeable resources. This should be

indifferent to young female users of ECP. Ideally, the role of pharmacists in dealing with ECP should be more specific and sensitive towards the gender, age and cultural background of the users. The challenge to community pharmacists will be to provide the needed information in an inviting, non-judgemental manner so the customers take advantage of it (Ragland et al., 2015). Currently, the focus of education on ECP is mainly on the direction of taking the medicine and when to access, seldom on others (Batur, Kransdorf, & Casey, 2016; Todd & Black, 2020).

Unfortunately, no known communication material by far is available to aid community pharmacists in providing a comprehensive and easy-to-understand educational session on ECP to young female adults, though treatment and practice guidelines were vastly available. For example, the Pharmaceutical Society of Australia (PSA) 'Guidance for provision of a Pharmacist Only medicine Levonorgestrel' requires Australian pharmacists to perform specific steps in supplying ECP: consider professional obligations, assess patient's needs, confirm the appropriateness of recommendation, and provide counselling supported by written information. Additionally, this guidance provides pharmacists on a range of issues including appropriate and effective processes, desired behaviour of good practice, how professional responsibilities may be best fulfilled, and expected outcomes. In Malaysia, there is not any specific guide or reference for community pharmacists when handling the supply of ECP.

1.3 Health education

Health education is a discipline of supplying health-related knowledge to individuals or communities. It encompasses principle of health promotion which aims to prevent, maintain, and restore health status. The health-related knowledge received empowers people to make informed decision related to their health issues. A joint force among healthcare professionals (physicians, pharmacists, and dieticians) in providing health education has been proved to be a success in increasing patient's knowledge, as reported by a study conducted on haemodialysis patients in Malaysia (Chan, Cheah, & Padzil, 2019). Apart from increasing health-related knowledge, health education intended to influence patient's attitude and behaviour towards positive health state. This preventive measure is to reduce risky behaviours that could contribute to illnesses as the results of repeated unhealthy behaviours. A recent study in Malaysia demonstrated educational talk as the health education intervention gives promising results in the improvement of knowledge and attitude among women on cervical cancer and its preventive measures (Romli, Sa'adiah Shahabudin, & Mokhtar, 2020). As the result, health education contributes to the increase in health efficacy of health services.

The scope of health education is wide, to name a few: physical health, emotional health education, and social health education. Among the wide

range of health education coverage, sexual and reproductive health education is one of the areas that commonly performed by health educators which is also the focus of this study. Education program in healthcare settings is commonly referring to counselling session. A counselling session is commonly related as the sharing of medication information and disease related information such as the lifestyle modification to compliment on the use of medicinal products (Chan et al., 2019). Ultimately the objective is to improve patient's health condition and hence the quality of life.

1.3.1 Health communication – an element in health education

Health communication is a process of transferring health information from healthcare professionals to individuals or communities by adapting to various communication media or tools. The primary objective of health communication is to inform the importance of health issues and trigger the action for change. The delivery of health education come in many forms; to name a few, pamphlets, text messages, videos, experience sharing, and the most commonly seen – talk session (Romli et al., 2020). Health literacy is the essence to be considered in ensuring effective health communication occurs. Low health literacy is showed to be associated with poor health status (Lee, Wong, & Lee, 2020). However, for healthcare professionals in Malaysia, study showed the medical terms are frequently used instead of simple layman terms when communicating with patients (Rajah, Hassali, & Lim, 2018). Information provided by healthcare professionals might not be fully interpreted by patients. Ideally, the choice of communication media or tools is determined by level of health literacy of a patient. In Malaysia, researches have shown validated health education module is an effective tool to expand understanding and trigger behavioural change among patients (Hasan, Mohd Hairon, Yaacob, Daud, Abdul Hamid, Hassan, ... & Yi Vun, 2019; Mohd-Sidik, Akhtari-Zavare, Periasamy, Rampal, Fadhilah, & Mahmud, 2018). The common strategies in health communication includes verbal and written forms in transmitting health information. While verbal communication is certain in health education and communication process, only 52.2% and 40.1% of Malaysian healthcare professionals incorporated educational materials and sketching diagrams for explanation, respectively (Rajah et al., 2018).

Participation is among the main principle of health education and communication. An effective communication should be two-way and hence the importance of getting patients to participate into the health education and communication process. It is reported that only about half of the healthcare professionals in Malaysia are incorporating communication practices such as asking patient to repeat information and asking caregivers to be present during explanation to encourage the level of participation in health education and communication (Rajah et al., 2018). More attentions are needed in this area where participation in health education and communication encourages people to increase control over their health.

1.3.2 The importance of communication material

In order to strengthen the role of pharmacists in communicating on ECP, an appropriate communication material is necessary. Effective educational communication could improve general knowledge on ECP. The focus should particularly target women with minimal awareness of EC as well as beyond the scope of traditional media (Ritter, Dore, & McGeechan, 2015). Given that ECP can now be supplied by community pharmacists without prescription, age- and culturally sensitive health information should be in place to improve awareness and dismiss myth, so as to support women aged 18 years and above to use EC as an option in preventing unwanted pregnancy (Gonsalves & Hindin, 2017). In conjunction with improved rates of effective contraceptive counselling and risk reduction behaviour, the effective use, promotion and increased availability of emergency contraception are essential if emergency contraception is to reduce unintended pregnancy. An increase in familiarity with emergency contraception was associated with increased likelihood of use, regardless of whether women had been offered emergency contraception in advance (Gonsalves & Hindin, 2017). Therefore, patient education in all pharmacy environments and during every pharmacy visit is important to ensure that females have the knowledge when they need it. This will continue to be important now that ECP supply has over-the-counter status and supplementation of the required knowledge from community pharmacists is of utmost importance to female users.

The ECP is known to be an effective method to prevent unwanted pregnancy when being used correctly. Globally, the access of ECP has mostly been made conveniently from the community pharmacy without prescription including Malaysia. The missing puzzle to achieve the maximum effect of ECP use is the awareness, knowledge, and proper utilisation of ECP from the users. As a guide, study showed the effectiveness of information leaflets in triggering consciousness and expanding knowledge in Human Papillomavirus infection and vaccination among pre-university students in Malaysia (Kwang, Mahayudin, Yien, Abdul Karim, Teik, & Shan, 2016). By using community pharmacists as the medium, a communication material can improve the process of information transition on the awareness, knowledge, and proper utilisation of ECP to users especially the young female adults. A successful result from this is the reduction of the rate of unwanted pregnancy, abortion, and baby dumping.

1.4 Background of problem

A communication material aims to allow a smooth transition of information, especially important and extensive information, from one end to another (Porter, Alexander, Perzynski, Kruzliakova, & Zoellner, 2019). This is particularly important in the transition of healthcare information such as in the topic of ECP. With the convenience of getting ECP without prescription, there were always

concerns of ECP misuse, especially among young female adults (Yen et al., 2015). A study indicated that by just creating a simple counselling session, customers' EC knowledge can be enhanced even in a busy retail pharmacy (Ragland et al., 2015). Despite this, concerns still exist as pharmacists generally felt discomfort with the delivery of sexual and reproductive health information and any accompanying counselling (Gonsalves & Hindin, 2017). Moreover, counselling young female adults in presence of other customers or staff at the counter often leaves little room for privacy (Both & Samuel, 2014; Gonsalves & Hindin, 2017; Hattingh, Emmerton, Ng Cheong Tin, & Green, 2016). EC use is only efficient if women could ask questions, and if they receive professional advice and benefit from privacy (Bitzer, Abalos, Apter, Martin, Black, & Global CARE (Contraception: Access, Resources, Education) Group, 2016; Robbins & Ott, 2017). Effective measures to enable active listening and building rapport with female customers include directing people away from the main counter or to a dedicated counselling area (Seubert, Whitelaw, Boeni, Hattingh, Watson, & Clifford, 2017). Some pharmacists let the customer wait when there are a lot of other customers but give them some leaflets and information to think about (Gonsalves & Hindin, 2017). By far, little do we know regarding the availability of such communication material specifically catering to community pharmacists in the topic of ECP in Malaysia. The consequence of low knowledge on ECP could led to inappropriate administration and unwanted effects of ECP (Yen et al., 2015). With the existing issue of unwanted pregnancy, abortion, and baby dumping in Malaysia, an effective communication material on the use of ECP is indispensable.

The provision of educational information (most often in print form) is considered to be a fundamental prerequisite of consumer participation in health care (Karanesheva, 2015). While there are limitations on the degree to which print material alone can be expected to impact on health outcomes, it is nonetheless apparent that they have been integral to public and patient education for some time (Sustersic, Gauchet, Foote, & Bosson, 2017). A review of the effectiveness of print materials found that pamphlets could be effective in changing knowledge, attitudes and behaviour in relation to a wide range of health-related issues (Sustersic et al., 2017). However, the consistency of the effect was found to be in part dependent on aspects of their implementation, such as whether they were used with patient samples or general public samples and whether they were used alone or in conjunction with other methods of intervention (Karanesheva, 2015; Sustersic et al., 2017).

1.5 Problem statement

An effective communication material is the final puzzle of achieving the greatest use of ECP and solving correlated issues. A common practice among most community pharmacists in ECP supply would involve handing the ECP to young adults readily, and informing them to consume the pills twelve hours apart, instead of providing them with tailored, comprehensive advice (Batur et al., 2016; Todd & Black, 2020). In Malaysia, the ECP have been made widely

available and easily accessible to everyone via community pharmacy. Additionally, the usage of ECP has been escalating and well accepted by all (Gajanan, 2015). With such positive factors, issues such as unwanted pregnancy, abortion, and baby dumping should be shrinking to minimum levels, however, related statistics indicated the opposite.

When providing counselling on the effective and safe ECP use, it is crucial for pharmacists to looking into consumers' comfort level in seeking additional information. The pharmacist-patient counselling session involves an intensive inquiry into the customers' medical history and thus risk scaring away uncomfortable customers (Hardavella, Aamli-Gaagnat, Frille, Saad, Niculescu, & Powell, 2017). Customers who may not feel comfortable sexual-related health topics will be more reserved to ask pharmacists for further information (Peters, Desai, Ricci, Chen, Singh, & Chewning, 2016). This resonates other studies which showed pharmacists facing similar challenges on ECP education, especially to young female adults, whereby they tend to hastily purchase ECP and are often too embarrassed to ask questions. Young adults frequently feel too shy to ask for more information from community pharmacists though they have many questions about ECP on the side effects and how to use them. Concurrently, pharmacists did not give enough advice or information about future contraception and sexual health (Saxena, Mishra, & Nigam, 2016). Pharmacists are insufficiently skilled in communicating with adolescents regarding EC (Milosavljevic, Krajnovic, & Bogavac-Stanojevic, 2016; Saxena et al., 2016). Instead of proactively raising ECP topics for discussion, pharmacists were more keen to respond only when prompted (Saxena et al., 2016). It was also suggestive that encounter length between pharmacist and customers were dependent on patients proactively asking questions (Peters et al., 2016). This could potentially be addressed by introducing communication skills training to pharmacists (Kerr, Strawbridge, Kelleher, Mertens, Pype, Deveugele, & Pawlikowska, 2017). Otherwise, the absence of clear ECP information may result in young female adults seeking information via informal channels such as from peers, brochures, and internet browsing (Both & Samuel, 2014; Garrett, Widman, Francis, & Noar, 2016). This raises concerns among service providers as peers and most social media are unreliable or able to provide accurate information on ECP (Garrett et al., 2016). As such, professional communication needs to be explored as an effective measure to overcome this issue.

In a diverse ethnicity country like Malaysia, cultural background and traditional characteristics of different races could be additional challenge for the Malaysian community pharmacists in dealing with this sensitive health topic. Premarital unplanned pregnancy in Malaysia is evident with low awareness and knowledge of contraception and ECP availability (Wong, Atefi, Abd Majid, & Su, 2014; Zain, Low, & Othman, 2015). This indicated the gap needs to be filled by community pharmacists as the primary and effective informant in reversing the situation. Another Malaysian study revealed that even young adolescents expressed the need for more information about ECP (Fatimah, Razif, & Aw,

2019). The need for protocols in EC provision that encompass counselling/referral guides and accessibility of materials (such as brochures, posters and package inserts) is evident (Saxena et al., 2016; Uzun, Sancar, & Okuyan, 2019). The current pharmacy practice is yet to bring any change to the situation; hence, a communication material for pharmacy-use is highly recommended to improve awareness and enable knowledge transition process to be efficient. This subsequently gives the advantage to young female adults to better understand reproduction and contraception while indirectly encouraging pharmacist-patient communication.

1.6 Research questions

This study consists of the following research questions:

1. What is the current practice of Malaysian community pharmacists in communicating use of emergency contraceptive pills to young female adults?
2. What are the challenges encountered by Malaysian community pharmacists in communicating emergency contraceptive pills to young female adults?
 - a. How do they overcome these challenges?
3. What do Malaysian community pharmacists perceive as a potential communication channel and its content on emergency contraceptive pills for young female adults?
 - a. Why are the suggested communication channels regarded as effective medium to communicate on emergency contraceptive pills?

1.7 Objectives

This study carries a general objective which is to explore a communication material on emergency contraceptive pills for Malaysian community pharmacists in educating young female adults.

Precisely, the specific objectives of the study are as followed:

1. To understand how Malaysian community pharmacists communicate the use of emergency contraceptive pills to young female adults.
2. To identify challenges faced by Malaysian community pharmacists in communicating with young female adults on emergency contraceptive pills.
3. To explore the perception of Malaysian community pharmacists on the potential communication channel and its content on emergency contraceptive pills for young female adults.

1.8 Significance of study

Theoretically, this study provides an understanding of the benefits of communication materials in achieving effective medication counselling. It signifies an insight into a contextualised content that effectively helps Malaysian community pharmacists in delivering information about ECP to young female adults. The aim is to explore an audience-centred communication material targeted to community pharmacists in focus of ECP counselling in young female adults. Extended Parallel Process Model (EPPM) applied in this study was engaged to segment young female adults accordingly for pharmacists to plan on targeted strategies suited for young female adults in each category to overcome the threat or risk (prevention of pregnancy in this study) confidently (Parvanta & Bass, 2018). Hence, the explored communication material in this study should be easy to read, understandable, and useable by the community pharmacists at the same time able to cater young female adults in all categories to bring-on changes, awareness and knowledge. In selection of communication material to suit ECP context and young female adults as the audience, this study implemented Theory-informed Media Selection (TIMS) Framework which integrates Media Richness Theory (MRT) with Uses and Gratifications Theory (UGT) which will be discussed in Chapter 2.

From the theories, this study offers benefit in better understanding on the appropriateness of ECP content in a communication material to be used during counselling sessions by community pharmacists. The findings from this study would enable community pharmacist to communicate timely and on vital ECP information for young female adults. Optimistically, this will also form the basis to inform stakeholders on the development of new guidelines on ECP for national implementation.

1.9 Limitations of study

When considering the research as a whole, the interpretation of the results may be limited by several factors. Firstly, the study recruited participants who were mainly within the urbanised areas as most pharmacies are in city. The explorative nature of qualitative research provides insights and perspectives of community pharmacists based upon their beliefs and experiences, thus the usual small number of recruited participants. As such, the results in Chapter 4 may not be the representative of the whole Malaysian community pharmacists. Another limitation could be that only community pharmacists were chosen to be interviewed in this study. More information may have been achieved if young female adults were included for their responses. However, the researcher felt that this was not the intention of current study and that the input from young female adults would be more beneficial during the later stage of a larger scale project involving piloting of the leaflet.

Data collection and analysis was carried out by the researcher (CYL) who was also a MSc candidate and pharmacist. As such, the result may be potentially biased. However, the researcher regarded his experiences can, in fact, enrich the grasp and sensitivity to the research topic. All participants were approached with an open mind to what was being said or observed and no personal criticism or judgements were laid upon the content of interviews. Frequent discussion and reflection were scheduled among the research team to ensure deterrent of possible biases.

1.10 Definition of terms

Communication materials:	Any forms of materials including literature, newsletters, publications, signage, websites, advertisements, brochures, videos, and press releases that deliver information across by facilitating a communication process.
Community pharmacists:	Healthcare professionals that servicing the local community by supplying medicines, compounding, and counselling with care, precision, and lawfulness.
Contraception:	Prevention of pregnancy from sexual intercourse by using artificial methods (medications or devices).
Emergency contraception:	A form of contraception used to prevent pregnancy after an unprotected sexual intercourse or failed contraception prior to sexual intercourse.
Emergency contraceptive pills:	Oral pills to be taken within 120 hours after an unprotected sex to prevent pregnancy; commonly known as morning-after pills.
Over-the-counter medicines:	A category of medicines that can be obtained from pharmacy without a prescription.
Young female adults:	Females who aged between 18 to 25 years of age (as defined in this study by the researcher). It is at this stage that dyadic sexual relationships usually develop.

REFERENCES

- Abma, J. C., & Martinez, G. M. (2017). Sexual activity and contraceptive use among teenagers in the United States, 2011-2015. *National Health Statistics Reports*, (104), 1-23.
- Ahmad, M. M., Musallam, R., & Allah, A. H. (2018). Nurses and internet health-related information: review on access and utility. *Clujul Medical*, 91(3), 266. doi:10.15386/cjmed-1024
- Alli, F., Maharaj, P., & Vawda, M. Y. (2013). Interpersonal relations between health care workers and young clients: barriers to accessing sexual and reproductive health care. *Journal of Community Health*, 38(1), 150-155. doi:10.1007/s10900-012-9595-3
- Apikoglu-Rabus, S., Clark, P. M., & Izzettin, F. V. (2012). Turkish pharmacists' counseling practices and attitudes regarding emergency contraceptive pills. *International Journal of Clinical Pharmacy*, 34(4), 579-586. doi:10.1007/s11096-012-9647-x
- Ballonoff Suleiman, A., Lin, J. S., & Constantine, N. A. (2016). Readability of educational materials to support parent sexual communication with their children and adolescents. *Journal of Health Communication*, 21(5), 534-543. doi:10.1080/10810730.2015.1103334
- Batra, P., Aquilino, M. L., & Farris, K. B. (2015). Pharmacy staff perceptions and self-reported behaviors related to providing contraceptive information and counseling. *Journal of the American Pharmacists Association*, 55(5), 481-487. doi:10.1331/JAPhA.2015.15037
- Batur, P., Kransdorf, L. N., & Casey, P. M. (2016). Emergency Contraception. *Mayo Clinic Proceedings*, 91(6), 802-807. doi:10.1016/j.mayocp.2016.02.018
- Beaulieu, M. D., Haggerty, J. L., Beaulieu, C., Bouharaoui, F., Lévesque, J. F., Pineault, R., ... & Santor, D. A. (2011). Interpersonal communication from the patient perspective: comparison of primary healthcare evaluation instruments. *Healthcare Policy*, 7(Spec Issue), 108.
- Bellamy, G., & Gott, M. (2013). What are the priorities for developing culturally appropriate palliative and end-of-life care for older people? The views of healthcare staff working in New Zealand. *Health & Social Care in the Community*, 21(1), 26-34. doi:10.1111/j.1365-2524.2012.01083.x
- Benetoli, A., Chen, T. F., & Aslani, P. (2019). Consumer perceptions of using social media for health purposes: Benefits and drawbacks. *Health Informatics Journal*, 25(4), 1661-1674. doi:10.1177/1460458218796664
- Bennett, W., Petraitis, C., D'Anella, A., & Marcella, S. (2003). Pharmacists' knowledge and the difficulty of obtaining emergency contraception. *Contraception*, 68(4), 261-267. doi:10.1016/s0010-7824(03)00180-x
- Betancourt, J. R., Corbett, J., & Bondaryk, M. R. (2014). Addressing disparities and achieving equity: Cultural competence, ethics, and health-care transformation. *Chest*, 145(1), 143-148. doi:10.1378/chest.13-0634
- Beyene, G. A. (2019). Prevalence of unintended pregnancy and associated factors among pregnant mothers in Jimma town, southwest Ethiopia: a

- cross sectional study. *Contraception and Reproductive Medicine*, 4(1), 8. doi:10.1186/s40834-019-0090-4
- Bitzer, J., Abalos, V., Apter, D., Martin, R., Black, A., & Global CARE (Contraception: Access, Resources, Education) Group. (2016). Targeting factors for change: contraceptive counselling and care of female adolescents. *The European Journal of Contraception & Reproductive Health Care*, 21(6), 417-430. doi:10.1080/13625187.2016.1237629
- Bonito, A., Horowitz, N., McCorkle, R., & Chagpar, A. B. (2013). Do healthcare professionals discuss the emotional impact of cancer with patients?. *Psycho-Oncology*, 22(9), 2046-2050. doi:10.1002/pon.3258
- Borrego, M. E., Short, J., House, N., Gupchup, G., Naik, R., & Cuellar, D. (2006). New Mexico pharmacists' knowledge, attitudes, and beliefs toward prescribing oral emergency contraception. *Journal of the American Pharmacists Association*, 46(1), 33-43. doi:10.1331/154434506775268634
- Both, R., & Samuel, F. (2014). Keeping silent about emergency contraceptives in Addis Ababa: a qualitative study among young people, service providers, and key stakeholders. *BMC Women's Health*, 14(1), 134. doi:10.1186/s12905-014-0134-5
- Brooks, L. A., Manias, E., & Bloomer, M. J. (2019). Culturally sensitive communication in healthcare: a concept analysis. *Collegian*, 26(3), 383-391. doi:10.1016/j.colegn.2018.09.007
- Brown, J. D., & Wissow, L. S. (2009). Discussion of sensitive health topics with youth during primary care visits: relationship to youth perceptions of care. *Journal of Adolescent Health*, 44(1), 48-54. doi:10.1016/j.jadohealth.2008.06.018
- Bui, T.-L., Silva-Hirschberg, C., Torres, J., & Armstrong, A. W. (2018). Are patients comprehending? A critical assessment of online patient educational materials. *Journal of Dermatological Treatment*, 29(3), 295-299. doi:10.1080/09546634.2017.1372558
- Burton, S., Boschmans, S. A., & Hoelson, C. (2013). Self-perceived professional identity of pharmacy educators in South Africa. *American Journal of Pharmaceutical Education*, 77(10). doi:10.5688/ajpe7710210
- Carcone, A. I., Naar-King, S., Brogan, K., Albrecht, T., Barton, E., Foster, T., ... & Marshall, S. (2013). Provider communication behaviors that predict motivation to change in black adolescents with obesity. *Journal of developmental and behavioral pediatrics: JDBP*, 34(8), 599. doi:10.1097/dbp.0b013e3182a67daf
- Centers for Disease Control and Prevention. (2019). *Unintended pregnancy*. Retrieved from <https://www.cdc.gov/reproductivehealth/contraception/unintendedpregnancy/>
- Chan, M. W., Cheah, H. M., & Padzil, M. B. M. (2019). Multidisciplinary education approach to optimize phosphate control among hemodialysis patients. *International Journal of Clinical Pharmacy*, 41(5), 1282-1289. doi: 10.1007/s11096-019-00878-4

- Charles, C., Gafni, A., & Whelan, T. (1997). Shared decision-making in the medical encounter: what does it mean?(or it takes at least two to tango). *Social science & medicine*, *44*(5), 681-692. doi:10.1016/s0277-9536(96)00221-3
- Chevalier, B. A., Watson, B. M., Barras, M. A., & Cottrell, W. N. (2017). Investigating strategies used by hospital pharmacists to effectively communicate with patients during medication counselling. *Health Expectations*, *20*(5), 1121-1132. doi:10.1111/hex.12558
- Corcoran, N., & Ahmad, F. (2016). The readability and suitability of sexual health promotion leaflets. *Patient Education and Counseling*, *99*(2), 284-286. doi:10.1016/j.pec.2015.09.003
- Crawley, L. M., Marshall, P. A., Lo, B., & Koenig, B. A. (2002). Strategies for culturally effective end-of-life care. *Annals of Internal Medicine*, *136*(9), 673-679. doi:10.7326/0003-4819-136-9-200205070-00010
- Davey, A., Asprey, A., Carter, M., & Campbell, J. L. (2013). Trust, negotiation, and communication: young adults' experiences of primary care services. *BMC Family Practice*, *14*(1), 202. doi:10.1186/1471-2296-14-202
- de La Peña, C. M., Friedlander, M. L., Escudero, V., & Heatherington, L. (2012). How do therapists ally with adolescents in family therapy? An examination of relational control communication in early sessions. *Journal of Counseling Psychology*, *59*(3), 339. doi:10.1037/a0028063
- Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage.
- El-Ibiary, S. Y., & Youmans, S. L. (2007). Health literacy and contraception: A readability evaluation of contraceptive instructions for condoms, spermicides and emergency contraception in the USA. *The European Journal of Contraception & Reproductive Health Care*, *12*(1), 58-62. doi:10.1080/13625180601092537
- Elkalmi, R. M., Khan, M. U., Ahmad, A., Srikanth, A. B., Abdurhaman, N. S., Jamshed, S. Q., ... & Ab Hadi, H. B. (2015). Knowledge, awareness, and perception of contraception among senior pharmacy students in Malaysia: A pilot study. *Journal of Research in Pharmacy Practice*, *4*(2), 94. doi:10.4103/2279-042X.155760
- Farris, K., Aquilino, M. L., Kimbel, J., Batra, P., & Marshall, V. (2012). *Using community pharmacies to reduce barriers to contraceptive use*. Retrieved from https://www.researchgate.net/publication/266825451_Using_community_pharmacies_to_reduce_barriers_to_contraceptive_use
- Fatimah, S., Razif, D., & Aw, S. M. (2019). Nowledge, Awareness D Perception of Contraception among University Students in Malaysia. *KnE Life Sciences*, 34-43. doi:10.18502/kls.v4i13.5223
- Finfgeld-Connett, D. (2010). Generalizability and transferability of meta-synthesis research findings. *Journal of Advanced Nursing*, *66*(2), 246-254. doi:10.1111/j.1365-2648.2009.05250.x
- Flanders, C. E., Pragg, L., Dobinson, C., & Logie, C. (2017). Young sexual minority women's use of the internet and other digital technologies for

- sexual health information seeking. *The Canadian Journal of Human Sexuality*, 26(1), 17-25. doi: 10.3138/cjhs.261-A2
- Flick, U. (2018). *An introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Gajanan, M. (2015). *Teenage use of over-the-counter morning-after pill doubles in a decade*. Retrieved from The Guardian website <https://www.theguardian.com/society/2015/jul/25/teenage-morning-after-pill-over-the-counter-doubles-decade>
- Garrett, K. P., Widman, L., Francis, D. B., & Noar, S. M. (2016). Emergency contraception: sources of information and perceptions of access among young adults. *Women & Health*, 56(6), 668-679. doi:10.1080/03630242.2015.1118727
- Gonsalves, L., & Hindin, M. J. (2017). Pharmacy provision of sexual and reproductive health commodities to young people: a systematic literature review and synthesis of the evidence. *Contraception*, 95(4), 339-363. doi:10.1016/j.contraception.2016.12.002
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough?: An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82. doi:10.1177/1525822X05279903
- Gupta, R., Langer, B., Singh, P., Kumari, R., Akhtar, N., & Gupta, R. (2015). Health care providers knowledge, attitudes and perceived barriers towards emergency contraception in a sub-Himalayan state of India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 7(8), 3245. doi:10.18203/2320-1770.ijrcog20183325
- Gutierrez Kapheim, M., Ramsay, J., Schwindt, T., Hunt, B. R., & Margellos-Anast, H. (2015). Utilizing the Community Health Worker Model to communicate strategies for asthma self-management and self-advocacy among public housing residents. *Journal of Communication in Healthcare*, 8(2), 95-105. doi:10.1179/1753807615Y.0000000011
- Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: A review. *Ochsner Journal*, 10(1), 38-43.
- Haeger, K. O., Lamme, J., & Cleland, K. (2018). State of emergency contraception in the US, 2018. *Contraception and Reproductive Medicine*, 3(1), 20. doi:10.1186/s40834-018-0067-8
- Hardavella, G., Aamli-Gagnat, A., Frille, A., Saad, N., Niculescu, A., & Powell, P. (2017). Top tips to deal with challenging situations: doctor-patient interactions. *Breathe*, 13(2), 129-135. doi:10.1183/20734735.006616
- Härgestam, M., Hultin, M., Brulin, C., & Jacobsson, M. (2016). Trauma team leaders' non-verbal communication: video registration during trauma team training. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 24(1), 1-10. doi:10.1186/s13049-016-0230-7
- Hasan, U. A., Mohd Hairon, S., Yaacob, N. M., Daud, A., Abdul Hamid, A., Hassan, N., ... & Yi Vun, L. (2019). Effectiveness of Diabetes Community Sharp Disposal Education Module in Primary Care: An Experimental Study in North-East Peninsular Malaysia. *International Journal of Environmental Research and Public Health*, 16(18), 3356. doi:10.3390/ijerph16183356
- Hattingh, H. L., Emmerton, L., Ng Cheong Tin, P., & Green, C. (2016). Utilization of community pharmacy space to enhance privacy: a

- qualitative study. *Health Expectations*, 19(5), 1098-1110. doi:10.1111/hex.12401
- Henning, M., Goto, A., Chi, C., & Rudd, R. E. (2015). Community health workers as critical building blocks to strengthen health systems: a two-case study of innovative CHWs in Zambia and Japan. *Journal of Communication in Healthcare*, 8(3), 241-249. doi:10.1080/17538068.2015.1107309
- Hersh, L., Salzman, B., & Snyderman, D. (2015). Health literacy in primary care practice. *American Family Physician*, 92(2), 118-124.
- Higgins, S. J., & Hattingh, H. L. (2013). Requests for emergency contraception in community pharmacy: An evaluation of services provided to mystery patients. *Research in Social and Administrative Pharmacy*, 9(1), 114-119. doi:10.1016/j.sapharm.2012.03.004
- Higgins, T., Larson, E., & Schnall, R. (2017). Unraveling the meaning of patient engagement: a concept analysis. *Patient Education and Counseling*, 100(1), 30-36. doi: 10.1016/j.pec.2016.09.002
- Hilverding, A. T., & Mager, N. A. D. (2017). Pharmacists' attitudes regarding provision of sexual and reproductive health services. *Journal of the American Pharmacists Association*, 57(4), 493-497. doi:10.1016/j.japh.2017.04.464
- Hocevar, S., & Yuksel, N. (2011). Reading grade level of Plan B instructions and patient information materials on emergency contraception. *Canadian Pharmacists Journal*, 144(3), 142-147. doi:10.3821/1913-701X-144.3.142
- Holloway, I., & Wheeler, S. (1996). *Qualitative research for nurses*. Oxford: Blackwell Science.
- International Consortium for Emergency Contraception. (2018). *EC status and availability: Malaysia*. Retrieved from <https://www.cecinfo.org/country-by-country-information/status-availability-database/countries/malaysia/>
- Ibrahim, A., Tawfik, F., & Akel, D. (2015) Nurse communication in health education: Patients' perspective. *Clinical Nursing Studies*. 3. doi:10.5430/cns.v3n4p94.
- Jasemzadeh, M., Jaafarzadeh, N., Khafaie, M. A., Malehi, A. S., & Araban, M. (2016). Predictor of pregnant women's self-care behavior against air pollution: an explanation based on the extended parallel process model (EPPM). *Electronic physician*, 8(9), 2871. doi:10.19082/2871
- Jones, R. K., Darroch, J. E., & Henshaw, S. K. (2002). Contraceptive use among U.S. women having abortions in 2000-2001. *Perspectives on Sexual and Reproductive Health*, 34(6), 294. doi:10.2307/3097748
- Karagiorgi, Y., Kalogirou, C., Theodosiou, V., Theophanous, M., & Kendeou, P. (2008). Underpinnings of adult learning in formal teacher professional development in Cyprus. *Journal of In-service Education*, 34(2), 125-146. doi:10.1080/13674580802003466
- Karaneshewa, T. (2015). Choosing the communication channel-a factor for effective health communication. *Bulgarian Journal of Public Health*, 7(3), 35-47.
- Kayyali, R., Marques Gomes, A., Mason, T., & Naik, M. (2016). Patient perceptions of medication counselling from community

- pharmacies. *Pharmacy & Pharmacology International Journal*, 4(2), 00071. doi:10.15406/ppij.2016.04.00071
- Kerr, A., Strawbridge, J., Kelleher, C., Mertens, F., Pype, P., Deveugele, M., & Pawlikowska, T. (2017). How can pharmacists develop patient-pharmacist communication skills? A realist review protocol. *Systematic Reviews*, 6(1), 1-7. doi:10.1186/s13643-016-0396-0
- Korhan, O., & Ersoy, M. (2016). Usability and functionality factors of the social network site application users from the perspective of uses and gratification theory. *Quality & Quantity*, 50(4), 1799-1816. doi:10.1007/S11135-015-0236-7
- Kwang, N. B., Mahayudin, T., Yien, H. L., Abdul Karim, A. K., Teik, C. K., & Shan, L. P. (2016). Effect of an educational intervention on knowledge of human papillomavirus vaccination among pre-university students in Malaysia. *Asian Pacific Journal of Cancer Prevention*, 17(1), 267-274. doi:10.7314/apjcp.2016.17.1.267
- Lee, J. Y., Wong, C. P., & Lee, S. W. H. (2020). m-Health views and perception among Malaysian: findings from a survey among individuals living in Selangor. *Mhealth*, 6. doi:10.21037/mhealth.2019.09.16
- Levetown, M. (2008). Communicating with children and families: from everyday interactions to skill in conveying distressing information. *Pediatrics*, 121(5), e1441-e1460. doi:10.1542/peds.2008-0565
- Lio, I., Remines, J., & Nadpara, P. A. (2018). Pharmacists' comfort level and knowledge about prescribing hormonal contraception in a supermarket chain pharmacy. *Journal of the American Pharmacists Association*, 58(4), S89-S93. doi:10.1016/j.japh.2018.05.005
- Long, T., & Johnson, M. (2000). Rigour, reliability and validity in qualitative research. *Clinical Effectiveness in Nursing*, 4(1), 30-37. doi:10.1054/cein.2000.0106
- Lonie, J. M., & Desai, K. R. (2015). Using transformative learning theory to develop metacognitive and self-reflective skills in pharmacy students: a primer for pharmacy educators. *Currents in Pharmacy Teaching and Learning*, 7(5), 669-675. doi:10.1016/j.cptl.2015.06.002
- Lorié, Á., Reineró, D. A., Phillips, M., Zhang, L., & Riess, H. (2017). Culture and nonverbal expressions of empathy in clinical settings: A systematic review. *Patient Education and Counseling*, 100(3), 411-424. doi:10.1016/j.pec.2016.09.018
- Lunsford, N. B., Sapsis, K. F., Smither, B., Reynolds, J., Wilburn, B., & Fairley, T. (2018). Young women's perceptions regarding communication with healthcare providers about breast cancer, risk, and prevention. *Journal of Women's Health*, 27(2), 162-170. doi:10.1089/jwh.2016.6140
- Mårtensson, E. K., & Fägerskiöld, A. M. (2008). A review of children's decision-making competence in health care. *Journal of Clinical Nursing*, 17(23), 3131-3141. doi:10.1111/j.1365-2702.2006.01920.x
- Martyn, K. K., Munro, M. L., Darling-Fisher, C. S., Ronis, D. L., Villarruel, A. M., Pardee, M., ... & Fava, N. M. (2013). Patient-centered communication and health assessment with youth. *Nursing Research*, 62(6), 383. doi:10.1097/NNR.0000000000000005

- Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, 11(3). doi:10.17169/fqs-11.3.1428
- Mazur, B. (2000). Revisiting plain language. *Technical Communication*, 47(2), 205-211.
- McKay, R., & Gilbert, L. (2014). Use of IUDs for emergency contraception: current perspectives. *Open Access Journal of Contraception*, 5, 53-63. doi:10.2147/OAJC.S56399
- Michie, L., & Cameron, S. T. (2020). Emergency contraception and impact on abortion rates. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 63, 111-119. doi:10.1016/j.bpobgyn.2019.06.008
- Michie, L., Cameron, S. T., Glasier, A., Wellings, K., & Loudon, J. (2014). Myths and misconceptions about intrauterine contraception among women seeking termination of pregnancy. *Journal of Family Planning and Reproductive Health Care*, 40(1), 36-40. doi:10.1016/j.contraception.2014.05.004
- Milosavljevic, J., Krajnovic, D., & Bogavac-Stanojevic, N. (2016). Predictors of pharmacists' provision of emergency contraceptive pills. *Health Care for Women International*, 37(10), 1170-1181. doi:10.1080/07399332.2016.1215464
- Mohd-Sidik, S., Akhtari-Zavare, M., Periasamy, U., Rampal, L., Fadhilah, S. I., & Mahmud, R. (2018). Effectiveness of chemotherapy counselling on self-esteem and psychological affects among cancer patients in Malaysia: randomized controlled trial. *Patient Education and Counseling*, 101(5), 862-871. doi:10.1016/j.pec.2018.01.004
- Mutha, A. S., Mutha, S. A., Baghel, P. J., Patil, R. J., Bhagat, S. B., Patel, S. B., & Watsa, M. C. (2014). A knowledge, attitudes and practices survey regarding sex, contraception and sexually transmitted diseases among commerce college students in Mumbai. *Journal of Clinical and Diagnostic Research: JCDR*, 8(8), HC14. doi:10.7860/jcdr/2014/9967.4684
- Najimudeen, M., & Sachchithanatham, K. (2014). An insight into low contraceptive prevalence in Malaysia and its probable consequences. *Int J Reprod Contracept Obstet Gynecol*, 3(3), 493-496. doi:10.5455/2320-1770.ijrcog20140943
- Naqvi, A. A., Hassali, M. A., Naqvi, S. B. S., Aftab, M. T., Zehra, F., Nadir, M. N., ... & Kachela, B. (2019). Assessment of patient satisfaction following pharmacist counselling session by a novel patient satisfaction feedback on counselling questionnaire. *Journal of Pharmaceutical Health Services Research*, 10(2), 243-254. doi:10.1111/jphs.12294
- Newman, B. M., & Newman, P. R. (2017). *Development through life: A psychosocial approach*. Belmont, CA: Cengage Learning.
- OCs OTC Working Group. (2018). *Global Oral Contraception Availability*. Retrieved from <http://ocsotc.org/world-map/>
- Ong, S. W., Hassali, M. A., & Saleem, F. (2018). Community pharmacists' perceptions towards online health information in Kuala Lumpur, Malaysia. *Pharmacy Practice (Granada)*, 16(2). doi:10.18549/PharmPract.2018.02.1166

- Orr, K. K., Lemay, V. A., Wojtusik, A. P., Opydo-Rossoni, M., & Cohen, L. B. (2016). Availability and accuracy of information regarding nonprescription emergency contraception. *Journal of Pharmacy Practice*, 29(5), 454-460. doi:10.1177/0897190014568378
- Ortiz, J., Wang, S., Elayda, M. A., & Tolpin, D. A. (2015). Preoperative patient education: can we improve satisfaction and reduce anxiety?. *Revista Brasileira de Anestesiologia*, 65(1), 7-13. doi:10.1016/j.bjan.2013.07.009
- Park, C. D. (2017). *Nonverbal Communication: Insights, Importance in Healthcare Settings and Social Influences*: Nova Science Publishers, Incorporated.
- Parvanta, C., & Bass, S. (2018). *Health Communication: Strategies and Skills for a New Era*. Jones & Bartlett Learning.
- Peters, J., Desai, K., Ricci, D., Chen, D., Singh, M., & Chewing, B. (2016). The power of the patient question: A secret shopper study. *Patient Education and Counseling*, 99(9), 1526-1533. doi:10.1016/j.pec.2016.07.012
- Pezalla, A. E., Pettigrew, J., & Miller-Day, M. (2012). Researching the researcher-as-instrument: An exercise in interviewer self-reflexivity. *Qualitative Research*, 12(2), 165-185. doi:10.1177/1468794111422107
- Pollak, K. I., Alexander, S. C., Coffman, C. J., Tulskey, J. A., Lyna, P., Dolor, R. J., ... & Østbye, T. (2010). Physician communication techniques and weight loss in adults: Project CHAT. *American Journal of Preventive Medicine*, 39(4), 321-328. doi:10.1016/j.amepre.2010.06.005
- Pope, C., & Mays, N. (1995). Qualitative research: reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. *BMJ*, 311(6996), 42-45. doi:10.1136/bmj.311.6996.42
- Porter, K. J., Alexander, R., Perzynski, K. M., Kruzliakova, N., & Zoellner, J. M. (2019). Using the Clear Communication Index to Improve Materials for a Behavioral Intervention. *Health Communication*, 34(7), 782-788. doi:10.1080/10410236.2018.1436383
- Purnell, L. (2018). Cross Cultural Communication: Verbal and Non-Verbal Communication, Interpretation and Translation. In M. Douglas, D. Pacquiao, & L. Purnell (Eds.), *Global Applications of Culturally Competent Health Care: Guidelines for Practice* (pp. 131-142). Cham: Springer.
- Purtilo, R. B., Haddad, A. M., & Doherty, R. F. (2018). *Health Professional and Patient Interaction E-Book*: Elsevier Health Sciences.
- Purwanti, E. (2017). Understanding the EFL Lecturers' Beliefs about Their Professional Learning from the Lens of Malcolm Knowles Theory of Andragogy. *Journal of Foreign Language Teaching and Learning*, 2(1), 30-43. doi:10.18196/ftl.2117
- Quinn, G. P., Vadaparampil, S. T., King, L., Miree, C. A., Wilson, C., Raj, O., ... & Albrecht, T. L. (2009). Impact of physicians' personal discomfort and patient prognosis on discussion of fertility preservation with young cancer patients. *Patient Education and Counseling*, 77(3), 338-343. doi:10.1016/j.pec.2009.09.007

- Rafie, S., Stone, R. H., Wilkinson, T. A., Borgelt, L. M., El-Ibiary, S. Y., & Ragland, D. (2017). Role of the community pharmacist in emergency contraception counseling and delivery in the United States: current trends and future prospects. *Integrated Pharmacy Research & Practice*, 6, 99-108. doi:10.2147/iprp.s99541
- Ragland, D., Payakachat, N., & Stafford, R. A. (2015). Emergency contraception counseling in a retail pharmacy setting: a pilot study. *Journal of Pharmacy Practice*, 28(3), 261-265. doi:10.1177/0897190013516507
- Rajah, R., Hassali, M. A., & Lim, C. J. (2018). An interprofessional evaluation of health literacy communication practices of physicians, pharmacists, and nurses at public hospitals in Penang, Malaysia. *Annals of Pharmacotherapy*, 52(4), 345-351. doi:10.1177/1060028017739031
- Randrianasolo, B., Swezey, T., Van Damme, K., Khan, M. R., Ravelomanana, N., Rabenja, N. L., ... & Jamieson, D. (2008). Barriers to the use of modern contraceptives and implications for woman-controlled prevention of sexually transmitted infections in Madagascar. *Journal of Biosocial Science*, 40(6), 879. doi:10.1017/S0021932007002672
- Rimal, R. N., & Lapinski, M. K. (2009). Why health communication is important in public health. *Bulletin of the World Health Organization*, 87, 247-247a. doi:10.2471/BLT.08.056713
- Ritter, T., Dore, A., & McGeechan, K. (2015). Contraceptive knowledge and attitudes among 14–24-year-olds in New South Wales, Australia. *Australian and New Zealand Journal of Public Health*, 39(3), 267-269. doi:10.1111/1753-6405.12367
- Robbins, C. L., & Ott, M. A. (2017). Contraception options and provision to adolescents. doi:10.23736/S0026-4946.17.05026-5
- Rodriguez, M. I., Biel, F. M., Swartz, J. J., Anderson, L., & Edelman, A. B. (2018). Pharmacists' experience with prescribing hormonal contraception in Oregon. *Journal of the American Pharmacists Association*, 58(6), 608-613. doi:10.1016/j.japh.2018.06.020
- Romli, R., Sa'adiah Shahabudin, N. S., & Mokhtar, N. (2020). Effectiveness of a Health Education Program to Improve Knowledge and Attitude Towards Cervical Cancer and Pap Smear: A Controlled Community Trial in Malaysia. *Asian Pacific Journal of Cancer Prevention: APJCP*, 21(3), 853.
- Sandelowski, M. (2000). Whatever happened to qualitative description?. *Research in Nursing & Health*, 23(4), 334-340. doi:10.1002/1098-240x(200008)
- Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing & Health*, 33(1), 77-84. doi:10.1002/nur.20362
- Santibañez, S., Siegel, V., O'Sullivan, M., Lacson, R., & Jorstad, C. (2015). Health communications and community mobilization during an Ebola response: partnerships with community and faith-based organizations. *Public Health Reports*, 130(2), 128-133. doi: 10.1177/003335491513000205
- Saxena, P., Mishra, A., & Nigam, A. (2016). Evaluation of pharmacists' services for dispensing emergency contraceptive pills in Delhi, India: a mystery

- shopper study. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine*, 41(3), 198. doi:10.4103/0970-0218.183595
- Schuers, M., Griffon, N., Kerdelhue, G., Foubert, Q., Mercier, A., & Darmoni, S. J. (2016). Behavior and attitudes of residents and general practitioners in searching for health information: from intention to practice. *International Journal of Medical Informatics*, 89, 9-14. doi:10.1016/j.ijmedinf.2016.02.003
- Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 118-137). Thousand Oaks, CA: Sage.
- Seubert, L. J., Whitelaw, K., Boeni, F., Hattingh, L., Watson, M. C., & Clifford, R. M. (2017). Barriers and facilitators for information exchange during over-the-counter consultations in community pharmacy: A focus group study. *Pharmacy*, 5(4), 65. doi:10.3390/pharmacy5040065
- Shen, J., Che, Y., Showell, E., Chen, K., & Cheng, L. (2017). Interventions for emergency contraception. *Cochrane Database of Systematic Reviews*, (8). doi:10.1002/14651858.CD001324.pub5
- Shoemaker, S. J., Wolf, M. S., & Brach, C. (2014). Development of the Patient Education Materials Assessment Tool (PEMAT): A new measure of understandability and actionability for print and audiovisual patient information. *Patient Education and Counseling*, 96(3), 395-403. doi:10.1016/j.pec.2014.05.027
- Sonfield, A., Hasstedt, K., & Gold, R. B. (2014). *Moving forward: family planning in the era of health reform*. Retrieved from Guttmacher Institute website: https://www.guttmacher.org/sites/default/files/report_pdf/family-planning-and-health-reform.pdf
- Strekalova, Y. A., & Krieger, J. L. (2017). Beyond words: Amplification of cancer risk communication on social media. *Journal of Health Communication*, 22(10), 849-857. doi:10.1080/10810730.2017.1367336
- Sustersic, M., Gauchet, A., Foote, A., & Bosson, J. L. (2017). How best to use and evaluate Patient Information Leaflets given during a consultation: a systematic review of literature reviews. *Health Expectations*, 20(4), 531-542. doi:10.1111/hex.12487
- Taylor, D. C., & Hamdy, H. (2013). Adult learning theories: Implications for learning and teaching in medical education: AMEE Guide No. 83. *Medical Teacher*, 35(11), e1561-e1572. doi:10.3109/0142159X.2013.828153
- Teddle, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1(1), 77-100. doi:10.1177/1558689806292430
- The Health Communication Capacity Collaborative HC3. (2014) *A theory-based framework for media selection in demand generation programs*. Baltimore: Johns Hopkins Bloomberg School of Public Health Center for Communication Programs.
- Theme-Filha, M. M., Baldisserotto, M. L., Fraga, A. C. S. A., Ayers, S., da Gama, S. G. N., & do Carmo Leal, M. (2016). Factors associated with

- unintended pregnancy in Brazil: cross-sectional results from the Birth in Brazil National Survey, 2011/2012. *Reproductive Health*, 13(3), 118. doi:10.1186/s12978-016-0227-8
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237-246. doi:10.1177/1098214005283748
- Todd, N., & Black, A. (2020). Contraception for adolescents. *Journal of Clinical Research in Pediatric Endocrinology*, 12(Suppl 1), 28-40. doi:10.4274/jcrpe.galenos.2019.2019.S0003
- Tuot, D. S., & Cavanaugh, K. L. (2015). Evaluating the merits of CKD patient educational materials: Readability is necessary but not sufficient. *American Journal of Kidney Diseases*, 65(6), 814-816. doi:10.1053/j.ajkd.2015.03.005
- Twaddell, J. W. (2019). Educating parents about vitamin K in the newborn using Knowles' theory of adult learning principles as a framework. *Critical Care Nursing Quarterly*, 42(2), 205-207. doi:10.1097/CNQ.0000000000000256
- U.S. Food and Drug Administration. (2006). *FDA approves over-the-counter access for Plan B for women 18 and older*. Retrieved from ScienceDaily website: www.sciencedaily.com/releases/2006/08/060826223818.htm
- UNICEF. (2015a). *Community Care Centers, Community Dialogue and Engagement: Key Ingredients in Sierra Leone*. Retrieved from [https://www.unicef.org/cbsc/files/UNICEF_Community_Care_Centers\(1\).pdf](https://www.unicef.org/cbsc/files/UNICEF_Community_Care_Centers(1).pdf)
- UNICEF. (2015b). *Lofa County: Communities took the matter in their own hands*. Retrieved from https://www.unicef.org/cbsc/files/Communities_took_the_matter_in_their_own_hands-Lofa%284%29.pdf
- United Nations, Department of Economic and Social Affairs, Population Division. (2015). *Trends in contraceptive use worldwide 2015 (ST/ESA/SER.A/349)*. Retrieved from <https://www.un.org/en/development/desa/population/publications/pdf/family/trendsContraceptiveUse2015Report.pdf>
- Uzun, G. D., Sancar, M., & Okuyan, B. (2019). Evaluation of knowledge and attitude of pharmacist and pharmacy technicians on emergency contraception method in Istanbul, Turkey: A simulated patient study. *Journal of Research in Pharmacy*, 23(3). doi:10.12991/jrp.2019.147
- Van, K. K. (2005). Emergency contraceptive pills: dispensing practices, knowledge and attitudes of South Dakota pharmacists. *Perspectives on Sexual and Reproductive Health*, 37(1), 19-24. doi:10.1363/psrh.37.19.05
- van Beusekom, M. M., Grootens-Wiegers, P., Bos, M. J., Guchelaar, H. J., & van den Broek, J. M. (2016). Low literacy and written drug information: information-seeking, leaflet evaluation and preferences, and roles for images. *International Journal of Clinical Pharmacy*, 38(6), 1372-1379. doi:10.1007/s11096-016-0376-4

- van Staa, A., & On Your Own Feet Research Group. (2011). Unraveling triadic communication in hospital consultations with adolescents with chronic conditions: the added value of mixed methods research. *Patient Education and Counseling*, 82(3), 455-464. doi:10.1016/j.pec.2010.12.001
- Wadham, E., Green, C., Debattista, J., Somerset, S., & Sav, A. (2019). New digital media interventions for sexual health promotion among young people: a systematic review. *Sexual Health*, 16(2), 101-123. doi:10.1071/SH18127
- Weiss, M. C., Booth, A., Jones, B., Ramjeet, S., & Wong, E. (2010). Use of simulated patients to assess the clinical and communication skills of community pharmacists. *Pharmacy World & Science*, 32(3), 353-361. doi:10.1007/s11096-010-9375-z
- White, R. O., Eden, S., Wallston, K. A., Kripalani, S., Barto, S., Shintani, A., & Rothman, R. L. (2015). Health communication, self-care, and treatment satisfaction among low-income diabetes patients in a public health setting. *Patient Education and Counseling*, 98(2), 144-149. doi: 10.1016/j.pec.2014.10.019
- Williamson, M., & Harrison, L. (2010). Providing culturally appropriate care: A literature review. *International Journal of Nursing Studies*, 47(6), 761-769. doi: 10.1016/j.ijnurstu.2009.12.012
- Wong, L. P., Atefi, N., Majid, H. A., & Su, T. T. (2014). Prevalence of pregnancy experiences and contraceptive knowledge among single adults in a low socio-economic suburban community in Kuala Lumpur, Malaysia. *BMC Public Health*, 14(3), S1. doi:10.1186/1471-2458-14-s3-s1
- Wong, S. T., Saddki, N., & Tin-Oo, M. M. (2019). Readability and suitability of oral health education pamphlets produced by the Ministry of Health Malaysia. *The Medical Journal of Malaysia*, 74(4), 312-319.
- Woodhams, E. J., & Gilliam, M. (2019). Contraception. *Ann Intern Med*, 170(3), Itc18-itc32. doi:10.7326/aitc201902050
- World Health Organization. (2018). *Emergency contraception*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs244/en/>
- World Health Organization. (2020a). *Family planning/contraception methods*. Retrieved from <https://www.who.int/en/news-room/factsheets/detail/family-planning-contraception>
- World Health Organization. (2020b). *Health education*. Retrieved from https://www.who.int/topics/health_education/en/
- Wulifan, J. K., Brenner, S., Jahn, A., & De Allegri, M. (2016). A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle income countries. *BMC Womens Health*, 16(1), 2. doi:10.1186/s12905-015-0281-3
- Yen, S., Parmar, D. D., Lin, E. L., & Ammerman, S. (2015). Emergency contraception pill awareness and knowledge in uninsured adolescents: high rates of misconceptions concerning indications for use, side effects, and access. *Journal of Pediatric and Adolescent Gynecology*, 28(5), 337-342. doi:10.1016/j.jpag.2014.09.018
- Yitayal, M., Berhane, Y., Worku, A., & Kebede, Y. (2014). The community-based Health extension Program significantly improved contraceptive

- utilization in West gojjam Zone, ethiopia. *Journal of Multidisciplinary Healthcare*, 7, 201. doi:10.2147/JMDH.S62294
- Yusuf, M., Samad, A. A., Omar, M., & Ahmad, N. A. (2018). Unplanned pregnancy and its associated factors. *10(8)*. doi:10.5539/gjhs.v10n8p132
- Yusuf, H., Abdu-Aguye, S. N., Suleiman, H. O., Modi, M. H., Labaran, K. S., & Ahmed, A. (2019). Utilization of electronic drug information resources by pharmacists practicing in hospital and community settings in Maiduguri, Nigeria. *Journal of Pharmaceutical and Allied Sciences*, 16(5), 3138-3145.
- Zain, N. M., Low, W. Y., & Othman, S. (2015). Factors associated with pregnancy among unmarried women in Malaysia. *Southeast Asian J Trop Med Public Health*, 46, 526-38.
- Zonouzy, V. T., Niknami, S., Ghofranipour, F., & Montazeri, A. (2019). An educational intervention based on the extended parallel process model to improve attitude, behavioral intention, and early breast cancer diagnosis: a randomized trial. *International Journal of Women's Health*, 11, 1. doi:10.2147/IJWH.S182146